DOCKET NO.: RCOH-1069 PATENT

**Application No.: 10/763,011** 

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## **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims:**

1. (currently amended) An image forming device network system, a parent device including a first image scanning unit for scanning an image to generate image data, a first memory unit connected to the first image scanning unit for storing the image data that has been scanned in by the image scanning unit, a first image forming unit connected to the first memory unit for reading the image data and forming an image on an image-transferring medium and a first control unit connected to the first image scanning unit, the first memory unit and the first image forming unit, the first control unit controlling the first image scanning unit, the first memory unit and the image forming unit, the first control unit controlling transfer of the image data via the network, at least one child device connected to the parent device through a network including a second memory unit operationally connected to the first memory unit for storing the image data that has been transferred from the first memory unit via the network, a second image forming unit connected to the second memory unit for reading the transferred image data and forming an image on an image-transferring medium, a second control unit connected to the second memory unit and the second image forming unit, the image forming unit for controlling the second memory unit and the second image forming unit, the image forming device network system comprising:

a first remaining memory detection unit connected to the first memory unit for detecting a remaining amount of memory in the first memory unit;

a collaboration unit connected to the parent device and the child device for activating a collaboration mode for a collaboration print job between the child device and the parent device;

a receiving unit located at the child device and connected to the parent device for receiving the image data that is transferred from the parent device to the child device; and

an execution unit connected to said receiving unit for initiating the second image forming unit for the collaboration print job only after an entire portion of a predetermined size of the transferred image data for the collaboration print job is stored in the second memory unit.

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2. (cancel)

3. (original) The image forming device network system according to claim 1 further comprising

a second remaining memory detection unit connected to the second memory unit for detecting a

remaining amount of memory in the second memory unit.

4. (original) The image forming device network system according to claim 3 wherein said

second remaining memory detecting unit detects a predetermined remaining memory level in the

second memory unit to generate a memory full signal, said second remaining memory detecting

unit further comprising a reporting sub-unit for reporting the memory full signal to the parent

device.

5. (original) The image forming device network system according to claim 4 further comprising

a transfer interrupt unit located at the parent device and connected to said second remaining

memory detecting unit and said collaboration unit for interrupting the transfer of the image data

to the child device via the network upon receiving the memory full signal.

6. (original) The image forming device network system according to claim 5 wherein said

collaboration unit cancels the collaboration print job after the image transfer has been interrupted

from the parent device to the child device, said collaboration unit removing the transferred image

data from the second memory unit.

7. (original) The image forming device network system according to claim 6 wherein said

collaboration unit deactivates the collaboration mode.

8. (original) The image forming device network system according to claim 7 further comprising

a reservation unit located at the parent device for reserving next ones of the collaboration print

job while the collaboration print job is being executed.

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9. (original) The image forming device network system according to claim 8 wherein said

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reservation unit informs said collaboration unit of no reservation job to preserve the

collaboration mode if no job has been reserved when said second remaining memory detecting

unit detects the predetermined remaining memory level in the second memory unit.

10. (original) The image forming device network system according to claim 8 wherein said

reservation unit informs said collaboration unit of a reservation job to deactivate the

collaboration mode if a job has been reserved when said second remaining memory detecting

unit detects the predetermined remaining memory level in the second memory unit.

11. (original) The image forming device network system according to claim 8 wherein said

collaboration unit onsets the image data transfer from the parent device to the child device when

the corresponding one of the reserved jobs becomes the activated collaboration print job.

12. (original) The image forming device network system according to claim 11 wherein said

collaboration unit prevents the image data transfer if the parent device completes the activated

collaboration print job before the child device has a chance to perform the activated collaboration

print job.

13. (original) The image forming device network system according to claim 11 wherein said

collaboration unit interrupts the image data transfer if the parent device initiates a last portion of

the activated collaboration print job while the image data is being transferred from the parent

device to the child devices, said collaboration unit removing the transferred image data from the

second memory unit.

14. (original) The image forming device network system according to claim 1 wherein said

collaboration unit removes the image data from the first memory unit when said collaboration

unit determines that the collaboration print job between the child device and the parent device is

completed.

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15. (original) The image forming device network system according to claim 1 further

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comprising a selection unit connected to said collaboration unit for a user to select the

collaboration mode or a single operation mode for a print job.

16. (original) The image forming device network system according to claim 3 further

comprising a memory comparison unit connected to said second remaining memory detection

unit for comparing the remaining memory amount in the second memory unit and a size of the

image data to generate a comparison result.

17. (original) The image forming device network system according to claim 16 wherein said

memory comparison unit further comprises a transfer determination sub-unit for determining an

image data transfer of the image data based upon the comparison result.

18. (original) The image forming device network system according to claim 17 wherein said

transfer determination sub-unit interrupts the image data transfer if the remaining memory

amount in the second memory unit is less than the image data size.

19. (original) The image forming device network system according to claim 16 further

comprising a display unit connected to said memory comparison unit for displaying information

on the child device having the remaining memory amount in the second memory unit that is

larger than the image data size.

20. (original) The image forming device network system according to claim 1 further

comprising a distribution unit connected to said collaboration unit for distributing the

collaboration print job to a selected one of the child devices based upon availability and a current

load amount.

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21. (original) The image forming device network system according to claim 20 further

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comprising a remaining resource monitoring unit connected to said distribution unit for

monitoring a remaining resource at the parent device and each of the child devices.

22. (original) The image forming device network system according to claim 21 wherein the

remaining resource includes paper and toner.

23. (original) The image forming device network system according to claim 21 wherein said

distribution unit determines whether or not the parent device alone prints an entire portion of the

collaboration print job based upon the remaining resource at the parent device.

24. (original) The image forming device network system according to claim 23 wherein said

distribution unit assigns a part of the collaboration print job to a selected one of the child devices

based upon the remaining resource at the child devices if the remaining resource at the parent

device is not sufficient for the collaboration print job.

25. (original) The image forming device network system according to claim 24 further

comprising a display unit located at the parent device connected to said distribution unit for

displaying information on the selected child device.

26. (original) The image forming device network system according to claim 24 further

comprising a display unit located at the child device connected to said distribution unit for

displaying information on the collaboration job.

27. (original) The image forming device network system according to claim 1 further

comprising an image consolidation unit connected to said collaboration unit for consolidating the

image data in a predetermined manner to generate consolidated image data before transferring

from the parent device to the child device.

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28. (original) The image forming device network system according to claim 27 further

comprising a determination unit for determining whether a print mode is in a stack mode or a

sort mode prior to generating the consolidated image data.

29. (original) The image forming device network system according to claim 28 wherein said

image consolidation unit at the parent device generates all of the consolidated image data and

transfers the consolidated image data from a first portion in case of the sort mode.

30. (original) The image forming device network system according to claim 28 wherein said

image consolidation unit at the parent device generates all of the consolidated image data and

transfers the consolidated image data from a last portion in case of the stack mode.

31. (original) The image forming device network system according to claim 28 wherein the

transferred image at the child device is removed as soon as the collaboration print job at the child

device is complete.

32. (original) The image forming device network system according to claim 1 wherein the

parent device transfers the image data from a last portion and the child device prints the image

data from the last portion in a stack mode during the collaboration mode.

33. (original) The image forming device network system according to claim 32 wherein the

parent device terminates the transfer of the image data if a corresponding image is already

printed.

34. (original) The image forming device network system according to claim 33 wherein if the

parent device completes the transfer of the image data to the child device, the child device

normally completes printing of the transferred image and the parent device also completes

printing of the image data, the image data is removed from the first and second memory units.

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- 35. (currently amended) An image forming device network system, comprising:
  - a parent device further comprising:
  - a first image scanning unit for scanning an image to generate image data;
- a first memory unit connected to said first image scanning unit for storing the image data that has been scanned in by said image scanning unit;
- a first remaining memory detection unit connected to said first memory unit for detecting a remaining amount of memory in said first memory unit;
- a first image forming unit connected to said first memory unit for reading the image data and forming an image on an image-transferring medium; and
- a first control unit connected to said first image scanning unit, said first memory unit and said first image forming unit for controlling said first image scanning unit, said first memory unit and said image forming unit, said first control unit controlling transfer of the image data via the network; and
- at least one child device connected to said parent device through a network further comprising:
- a second memory unit operationally connected to said first memory unit for storing the image data that has been transferred from said first memory unit via the network;
- a second image forming unit connected to said second memory unit for reading the transferred image data and forming an image on an image-transferring medium; and
- a second control unit connected to said second memory unit and said second image forming unit for controlling said second memory unit and said second image forming unit, wherein said first control unit and said second control unit performing a collaboration print job, said first control unit and said second control unit initiating a collaboration mode for the collaboration print job only after an entire portion of a predetermined size of the transferred image data for the collaboration print job is stored in said second memory unit.

36. (cancel)

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37. (original) The image forming device network system according to claim 35 further

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comprising a second remaining memory detection unit connected to said second memory unit for

detecting a remaining amount of memory in said second memory unit.

38. (original) The image forming device network system according to claim 37 wherein said

second remaining memory detecting unit detects a predetermined remaining memory level in

said second memory unit to generate a memory full signal, said second remaining memory

detecting unit further comprises a reporting sub-unit for reporting the memory full signal to said

parent device.

39. (original) The image forming device network system according to claim 38 wherein said

parent device stops the transfer of the image data to said child device via the network upon

receiving the memory full signal.

40. (original) The image forming device network system according to claim 39 wherein said

first control unit and said second control unit cancel the collaboration print job after the image

transfer has been interrupted from the parent device to the child device, said first control unit and

said second control unit removing the transferred image data from the second memory unit.

41. (original) The image forming device network system according to claim 40 wherein said

second control unit deactivates the collaboration mode.

42. (original) The image forming device network system according to claim 41 further

comprising a reservation unit located at the parent device for reserving next ones of the

collaboration print job while the collaboration print job is being executed.

43. (original) The image forming device network system according to claim 42 wherein said

reservation unit informs said first control unit and said second control unit of no reservation job

to preserve the collaboration mode if no job has been reserved when said second remaining

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memory detecting unit detects a predetermined remaining memory level in the second memory

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unit.

44. (original) The image forming device network system according to claim 43 wherein said

reservation unit informs said first control unit and said second control unit of no reservation job

to deactivate the collaboration mode if a job has been reserved when said second remaining

memory detecting unit detects a predetermined remaining memory level in the second memory

unit.

Please cancel claims 45-96

97. (original) The image forming device network system according to claim 1 wherein said

collaboration unit further comprises an allocation unit for allocating an initial share of the

collaboration print job at the child device and the parent device, wherein said collaboration unit

monitors printing of the collaboration print job at the child device and the parent device to

generate a print completion signal, said allocating unit further reallocating a remaining share of

the collaboration print job at the child device and the parent device based upon the print

completion signal.

98. (original) The image forming device network system according to claim 35 wherein said

first control unit further comprises an allocation unit for allocating an initial share of the

collaboration print job at the child device and the parent device, wherein said first control unit

and said second control unit respectively monitor printing of the collaboration print job at the

parent device and the child device to generate a print completion signal, said allocation unit

further reallocating a remaining share of the collaboration print job at the child device and the

parent device based upon the print completion signal.

Please cancel claims 99-105.